

ABSTRACT OF THE DISCLOSURE

Ligand-responsive chimeric proteins are engineered to cause a detectable output in response to a preselected stimulus. The engineered chimeric proteins are useful in industrial, commercial, medical, and scientific fields as a tool for programming a cellular response to a stimulus of choice and for use with *in vitro* assays. The engineered chimeric proteins include a detection domain and an interaction domain. Interaction of the engineered chimeric protein with a target biomolecule is modulated by the presence or absence of the preselected stimulus.